

siological effects of the drug were obtained without either nausea or depression.

We have tried in several cases a tincture from the leaves, and in one case an extract made from the tincture, and found these preparations equally effectual as an infusion with the dregs. We find also that a strained infusion is equally efficacious as one with the dregs, from which we conclude that the active principle is not the oil, so abundant in these leaves. In one case we administered a strained infusion of the root without any effect, and in three cases an infusion made from the bark of the stem, giving also the dregs. This last preparation is also active, though it appeared to us to excite more vomiting and to cause more depression than the preparations from the leaves.

The following account of the effects of jaborandi on the eye is written by Mr. JOHN TWEEDY:—

"From the account given in the *Pharmaceutical Journal* of the 16th inst., by Mr. Martindale, of his personal experience of the physiological effects of jaborandi, it appeared that in addition to its diaphoretic and sialagogic actions, this drug was capable of exerting a decided influence on the accommodative apparatus of the eye. About half an hour after taking fifty grains of the powdered leaf in an infusion, Mr. Martindale found that his vision for distance was greatly impaired, although he could see near objects distinctly. It was stated that the pupils were slightly dilated during this time, but Dr. Ringer, who was called in, informs me that this statement was not correct.

"In order to ascertain, if possible, what effect jaborandi really had upon the eye, some of the extract was placed within the conjunctivæ of several patients. Of its effects on the pupil full particulars have been given above. My attention was directed more particularly to the state of vision and the accommodation, and to the ophthalmoscopic appearances of the fundus oculi. I must, however, confess that as far as the six or seven patients that I examined were concerned I failed to find any constant or definite changes in the appearance of the eye beyond contraction of the pupil. One thing, however, was noticed—namely, that whereas the details of the fundus of the unaffected eye could be seen clearly without a lens behind the mirror of the ophthalmoscope, a weak concave lens was necessary to see clearly the details in the eye experimented on, thus showing some tension of accommodation.

"Failing to elicit any definite or satisfactory information respecting the condition of the accommodation of the eye, in these patients, I determined to apply some of the extract to my left eye, and to note its effects. Accordingly, at 1.30 P.M., I carefully tested the state of vision of my left eye, and found that I could read easily and clearly No. 1½ of Snellen's type from 4 in. (my nearest point) to 22 in. (my farthest point), and that  $V = \frac{1}{10}$ ; i.e., at a distance of 10 ft. I could read No. 10 of Snellen's type. (It may be well perhaps to state for the benefit of those not acquainted with Snellen's test-type, that whenever I shall express the state of vision or V by a fraction, the numerator will represent the distance at which I stood from the type, and that the denominator will represent the size of the type seen at that distance, or, more correctly, the distance at which that type makes an angle of five minutes at the optical centre of the eye.) I next made my left eye myopic by placing before it a convex lens of ten inches focal length, and found that I could see clearly and distinctly the fine vertical line of the dial I employ for estimating the degree of astigmatism, at a distance of nine inches. At 1.45 I placed within the conjunctiva a drop of the extract of jaborandi, which produced smart pain for about five minutes. After the smarting and the lachrymation had ceased, I tested the state of vision of the eye, and found that at 2.0 the nearest point of distinct vision for 1½ Snellen had been approximated to 3¼ in., and the farthest point to 20 in., while the fine vertical line could not be clearly seen, with the convex 10 in., at a greater distance than 8¼ in. At 2.15 the nearest point for 1½ Snellen was at 3 in., and the farthest at 14 in., and the greatest distance for the vertical line, with convex 10 in., was 8 in. I could, at a distance of 10 ft., make out some of the letters of 12 Snellen, but not even the letters of 30 Snellen were quite clearly defined. Just below the lower margins of each of the letters of 30 Snellen I could see, as it were, a fine shadow of half of each letter. There

was at this time no perceptible contraction of the pupil. At 2.25 the nearest point for 1½ Snellen was at 3 in., and the farthest point at 12 in. The left pupil was now noticed to be contracted to about half the size of the right. At 2.30 I could scarcely make out any of the letters of 15 Snellen at 10 ft., and even 20 Snellen were not clear. I now observed that even those letters that I could make out appeared much smaller when viewed with the left eye than with the right, and that with the left eye they seemed to be at a greater distance from me than with the right. At 2.35 the nearest point for 1½ Snellen remained at 3 in., but the farthest point had receded to 15½ in. The inequality of the pupil was *in statu quo*. At 2.40 I noticed that all objects, but especially distant ones, appeared much bolder, brighter, and better defined with my right eye than with the left, although under ordinary circumstances the vision of the left eye is more acute than that of the right. There appeared to be, in addition to the short-sightedness of the left eye, an actual impairment in the sensibility of the retina, producing imperfect amblyopia. At 2.50 the nearest point for 1½ Snellen was at 3¼ in., and the farthest at 16 in. The fine vertical line could now be clearly seen with the convex 10 at 8½ in. At 2.55,  $V = \frac{1}{10}$ , and I could now decipher some of the letters of No. 10, all the letters being clearer and better defined. The inequality of the pupils, however, remained the same. At 3, I could read even No. 8 Snellen at 10 ft., and there was but little appreciable difference in the apparent size or distance of the letters when viewed with the right and left eyes alternately. The left pupil had relaxed a little, but was still smaller than the right. At 3.10 P.M. the nearest point for 1½ Snellen was 3¾ in., and the farthest point at 18 in. The vertical line could now be seen at 9 in. with convex 10 in. At 3.30 the vision of the left eye had resumed its normal state, but it was not till after four o'clock that the left pupil had thoroughly relaxed.

"From these facts we may conclude that jaborandi locally applied to the eye causes, (1) contraction of the pupil; (2) tension of the accommodative apparatus of the eye, with approximation of the nearest and furthest points of distinct vision; (3) amblyopic impairment of vision from diminished sensibility of the retina. These effects, however, do not last long. In my own case the approximation of the near and far points of distinct vision had declared itself in a quarter of an hour, and reached its maximum in about forty minutes. It then gradually subsided, and had entirely passed off and the eye resumed its normal state in about an hour and a half."

## AUTOPSY OF THE TRING CENTENARIAN WHO HAD ATTAINED THE AGE OF ONE HUNDRED AND ELEVEN YEARS.

By SIR G. DUNCAN GIBB, BART., M.D., LL.D.,

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AN account of the autopsy of the old dame Mrs. Elizabeth Leatherlund, known as the Tring or Hertfordshire centenarian, just deceased, who was within three months of attaining the great age of one hundred and twelve years, will be most fittingly recorded in the pages of THE LANCET. Of the correctness of her age, as I have already had occasion to state in a communication brought before the British Association at Belfast in August of last year, there is no doubt, and very shortly a paper of mine, embodying all the proofs of this, will be brought before one of our scientific institutions. But it may be stated here, that she mentioned she was born at Chinnor, in Oxfordshire; she gave the christian name of her father correctly as well as her own; her maiden name she described as Herne, although spelt Horam in the Parish Register of Baptisms at Chinnor\* for 1763, in which occurs this:—"Elizabeth, daughter of Thomas Horam, Traveller, April 24." No subsequent entry occurs in this Register for thirty-seven years, giving her own or father's name, which disposes of an objection to her age that was brought for-

\* Through an error last year, Dover was stated in place of Chinnor.

ward in *The Times* some months back. Then she stated she was twenty-eight years old, or probably twenty-nine, when her first child was born. When I saw her in October, 1873, I felt that the crucial point would be the discovery of the date at which her eldest son and child, Samuel Leatherlund, with his wife and children, and other persons to the number of thirty-five, were drowned by the upsetting of a large waggon laden with hop-pickers, on crossing a wooden bridge over the river Medway, at Hadlow, in Kent, many years back. She could not give me the year, but on writing to Dr. Miles Coverdale Hooker, at Hadlow, he at once kindly furnished me with the date of the catastrophe, as October 20th, 1853, and sent me a photograph of the monument, with the names of Samuel Leatherlund, his wife, children, and kinsfolk, with their ages, who were buried there. Samuel's age was down as fifty-nine, and, curiously enough, all this information must have been correctly furnished by one daughter who escaped, as I learnt by referring to the newspapers of the time, which gave a very full account of the affair, together with the various inquests on the bodies. If the son was fifty-nine, or probably near upon sixty when he lost his life in 1853, he would have been eighty-two now, and deducting that from one hundred and eleven or one hundred and twelve, the age she would have shortly reached, it would have made twenty-nine when she was confined of him, which tallies with her statement. This, medically, is a matter so clear that it requires no further comment. By her husband, Joseph Leatherlund, a private in the Bucks Militia, who died at Carrick-on-Shannon about 1816, she had three sons and two daughters. The eldest was Samuel, and the youngest and only surviving is Saborah, who says she is near upon seventy (although she looks younger), and the mother of nine children, the eldest of whom is thirty-seven and the youngest sixteen.

On my visit to the old dame, in October, 1873, a most careful physical examination was made, including the use of the laryngoscope, which at first very much frightened her. Generally speaking there was an absence of senile changes in any part of the body, and I compared her condition at the time in some respects to that of a girl of sixteen. She made the tenth living centenarian I had examined, and unquestionably she looked ten years older than any of the others. My friend Mr. R. N. Lipscomb, of Tring, who had occasionally seen her, kindly promised to let me know when anything happened to her.

On January 19th, a letter from him, late in the day, informed me of her death the preceding night. Accordingly I proceeded early next morning to Tring, to meet him, for the purpose of examining her. He was unfortunately called away to a distance, but he left instructions with his assistant to aid me in his absence, and we proceeded together to the Red Lion Inn, Frogmore-street, where I made the autopsy myself, the assistant recording the appearances as they were described to him.

*Autopsy at 12 30, about thirty six hours after death.*—Height during life was four feet nine or ten inches; the body, therefore, was small and proportionate to her height. The rigor mortis was slight, and no odour was exhaled from the body. The integuments generally were of a yellow colour with a shade of brown, but not darker than they appeared during life. They were a little loose over certain parts of the body, but the attenuation of the muscles, especially about the neck, did not seem to be so great as when she was seen by me in October, 1873. The muscular development generally was fairly good, and no decided emaciation to speak of existed. The mammae were firm and well developed, though small, with no dark areolæ around the nipples. Over the abdomen were the usual marks seen in persons who have borne children. In sewing up the body afterwards, the skin was so tough that the needle would scarcely penetrate it. On reflecting the integuments over the chest and abdomen, a little adipose tissue was found over the pectoral muscles, and over the abdominal muscles it varied in thickness from an eighth to nearly a quarter of an inch. The cartilages of the ribs at their junction with the bone were cut through with the greatest ease and facility, the knife meeting with no resistance from any osseous changes. The cut surface presented a narrow rim of true white cartilage, whilst the other part possessed a brownish tinge, the result of some change allied to fatty degeneracy, for a slight roughness was manifest to the finger, although the middle structure

was quite soft; but before division of the costal cartilages, the thorax could be compressed with ease, through their elasticity, as I had seen during life.

The lungs were healthy, crepitant throughout, and had the usual appearance. Some slight congestion of the posterior part of the left was present, which, to some extent, may have been hypostatic, yet, associated with what was described as a trifling cold, it was the immediate cause of death. At the apex of each lung was a trifling adhesion, readily broken down, the connecting membrane having the appearance of ordinary areolar tissue. Both lungs at the margins of their lower lobes had an emphysematous fringe. The heart was perhaps a little large in proportion to the size of the body; it weighed with the arch of the aorta thirteen ounces exactly. In structure it was soft, a little flabby, and had a slight covering of fat. The coronary arteries were distinctly observed, but had not undergone any change. The right side of the organ was filled with dark clots of blood, whilst the left was empty. The muscular structure, cavities, and valves appeared to be normal. The arch of the aorta generally was enlarged, dilated, and somewhat attenuated; at its commencement the circumference was four inches and one-sixteenth, whilst at its termination it was three inches and one-fourth. An atheromatous patch, the size of a silver threepence, was present on the lower surface of the transverse portion of the arch, whilst at the commencement of the anterior and left part of the ascending portion a ridge of atheroma existed, which did not involve the semilunar valves.

On opening the abdomen scarcely any trace of the omentum was observed. The stomach and alimentary canal were perfectly healthy, and not distended with flatus. The liver was of fair average size for the body, of firm healthy structure, possessing a light claret-brown colour, and free from any white spot or patches. The gall-bladder was large in proportion to the liver, and filled but not gorged with bile; it contained no biliary calculus. The spleen was of the usual purple colour, comparatively small, slightly curved in shape, but healthy and firm. Both kidneys appeared to be healthy, the cortical and medullary portions fairly distinct, but in general structure soft and flabby. The ureters were normal, and so was the bladder, which was nearly full of urine. The uterus was very small, the Fallopian tubes and ovaries equally so, all quite healthy. The thoracic and abdominal aorta and other bloodvessels were soft, and free from any abnormal changes. The tongue, larynx, and trachea were removed for examination. Some of the papillæ on the dorsum of the tongue were much enlarged. The larynx was small and compact; the epiglottis, which had a slight notch on its superior margin, possessed the natural colour, shape, and appearance of early life. The vocal cords, short in length, had the merest tinge of yellow, but were otherwise normal. The aryteno-epiglottidean folds, the ventricles, and all other parts of the larynx were as perfect in their formation as in a young person. All the cartilages of the larynx were flexible, with an absence of any calcareous changes, unless in the central solid parts of the wings of the thyroid. The rings of the trachea were white and glistening, perfectly flexible and soft, and could be compressed in any direction. The os hyoides was thin, the great cornua slender, one of them fractured on removal, and the right lesser cornu elongated.

The heart, tongue, larynx, and trachea were brought away, and have since been presented to the College of Surgeons for their museum.

I must not forget to mention that the cornea of both eyes was free from any arcus senilis or annulus, although her sight had not been very good of late years. Yet she had been able to knit twine bags almost to the very last. She was of pure gipsy descent, and her father's family of Herne or Horam was, it appears, well known in Herts, Bucks, and Oxon as belonging to wandering tribes of gipsies.

Bryanston-street.

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UNIVERSITY OF EDINBURGH.—Two sums of £500 and £1000 have been bequeathed to the Senatus for the foundation of bursaries, the former by the late Mrs. Johnstone, of Harthope, Moffat, to be called the "Johnstone Bursary," and the latter by James Lambert, Alloa, to be called the "Lambert Bursary."